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RUSSIA: CORRUPTION AND TRANSPARENCY IN BUSINESS REGISTRATION AND REGULATION

METHODOLOGY

DECEMBER 2005

This publication was produced for review by the United States Agency for International Development. It was prepared by the IRIS Center, at the University of Maryland.

RUSSIA: CORRUPTION AND TRANSPARENCY IN BUSINESS REGISTRATION AND REGULATION

METHODOLOGY

SUBMITTED BY

The IRIS Center, University Research Corporation International

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CONTRACT NUMBER

PCE-I-00-97-00042-00, Task Order 8

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ABSTRACT

The methodology presented here was designed in response to a USAID request for a sector-based survey, to help identify sectors impacted by (or at risk for) corruption. The methodology incorporates the TAPEE governance factors of transparency, accountability, prevention, enforcement, and education.

The Russia application — assessing corruption and transparency in business regulation — was part of a broader pilot study to field-test the survey methodology. Surveys were conducted in twenty-five municipalities, of business owners and public officials. Businesspeople were asked about their observations of corruption; officials were asked about the adequacy of governance in their agencies (in terms of the TAPEE factors). The results of the two surveys were then interpreted in tandem. Specific measures were employed to check for consistency and reliability of responses. IRIS was able to use innovative methods to identify serious problems in data collection and to reduce the impact of these errors. Substantial concern however remains about the reliability of the data. With this caveat, it appears that the responses of businesspeople provided better information about corruption levels than did the officials' reports of governance safeguards.

KEY WORDS

Survey, methodology, anticorruption, TAPEE, business regulation

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I. CONTEXT

A. INTRODUCTION

The United States Agency for International Development ("USAID") asked the Center for Institutional Reform and the Informal Sector ("IRIS") to develop a methodology for assessing corruption and factors related to corruption in various sectors and various countries. The objective was to be able to identify sectors that were more corrupt or more at risk for corruption, in order to better target USAID's support efforts; as well as to develop a means of monitoring and evaluating the impact of anti-corruption efforts. The methodology was to be based on the factors identified by USAID as important in preventing or controlling corruption. These factors are transparency, accountability, prevention, enforcement and education, or "TAPEE."

Previous studies have canvassed entrepreneurs to ask them about their perceptions of corruption and experiences with respect to corruption in business registration and licensing. These studies concluded that there is substantial regional variation in the frequency with which bribes are paid and the amounts.

This assessment attempts to evaluate corruption levels as well as the transparency, accountability, prevention, enforcement, and education levels (collectively, "TAPEE") in the respective bureaucracies. The purpose is both to explore the extent to which these factors explain variations in the level of corruption, and to identify bureaucracies "at risk" for corruption. Gathering more detailed information on corruption allows USAID to better target its anti-corruption efforts.

IRIS began by conducting a qualitative assessment to learn more about the local structure of corruption. IRIS then developed survey instruments to survey business owners and public officials. Business owners were asked about their perceptions of corruption, and their experiences with corruption, at various agencies. Agency officials were asked about the TAPEE factors at their agency. This allows IRIS to "marry" the two sources of information, looking at the relationship between TAPEE factors and corruption, and identifying agency offices with low TAPEE factors. In addition, IRIS sought to "deconstruct" corruption, which includes many types of behaviors.

B. THE TAPEE FRAMEWORK

Institutional integrity — or the mechanisms to reduce corruption risks — can be summarized as TAPEE (Transparency, Accountability, Prevention, Enforcement and Education).

Corruption, as Robert Klitgaard, has famously and insightfully pointed out, is a crime of calculation and not of passion. Hence, the incidence and prevalence of corruption is likely to be governed by the expected costs and benefits of being corrupt (this follows from the economic theory of crime as developed by the Nobel laureate Gary Becker and colleagues). This logic can lead to the derivation of both USAID's TAPEE and Klitgaard's C=D+M-A, which are actually quite similar (Box 1 summarizes TAPEE and Box 2 describes its relationship with theory and Klitgaard's formula). TAPEE is based on an augmented cost-benefit framework, and explicitly allows for the role of values in limiting corruption.

The gains from corruption are likely to depend on the discretion and monopoly that officials have. A highly regulated economy offers more opportunity to demand bribes, and the lack of competing officials who can provide the same licenses also increases the amount that can be demanded. Thus reducing discretion and monopoly can reduce corruption. This corresponds to **Prevention** in TAPEE. Other components of prevention include rightsizing the civil service, some privatization, and separating citizens from public officials (having electronic filing of applications so no face-to-face contact is made, preventing practicing judges from having private practices etc).

Accountability refers to rules specifying the relationships between public officials' behavior and performance, and rewards and punishments. It includes both punishments for corruption, and incentives based on the quality of service delivery. Accountability, like transparency and enforcement, can be thought of in two layers, between voters and politicians and between politicians and bureaucrats. One reason for doing this is that in a multi-layer principal-agent relationship, as exists between voters and public officials, increasing the effectiveness of one layer can be unproductive or even counter-productive if the other layer is not functioning well. For instance, improving the ability of elected officials to fire civil servants can backfire if improprieties in the political system lead to the politicians being corrupt.

It is important to include rewards and punishments based on the quality of service delivery in an anti-corruption strategy, even if no corruption is observed or can be clearly inferred. The fundamental insight of principal-agent theory is that it is possible to motivate the agent to act in accordance with the principal's preferences even if the agent's actions cannot be observed, and even if following the principal's preferences is not in the agent's immediate interest. The proper motivation can be provided by holding the agent accountable for outcomes. Indeed, this can be done even if events outside the agent's control may also have affected the outcomes.

The expected costs of corruption depend on the probability of being caught and the probability and severity of the punishment once the official is caught. The probability of being caught refers to **Transparency** in TAPEE, and the probability of punishment to **Enforcement**. Like accountability, transparency and enforcement both need to be decomposed into political and administrative components to be meaningfully analyzed.

For many kinds of corruption, where negligence is difficult to disentangle from corruption —like shirking, or bribes for ignoring tax evasion—the provision of incentives or clear performance standards can be an effective deterrent: indeed, this might be more effective at reducing corruption than attempting to increase the amount of transparency and enforcement in terms of the actual observation and punishment of corrupt behavior. It is important to emphasize that criminal sanctions are inappropriate and violate the rule of law without proof of corruption, and only administrative sanctions (fines, transfers, suspensions and dismissals) should be used to punish poor performance. Ultimately, enforcement has to be present for accountability to have an impact.

Box 1. The TAPEE criteria

USAID has identified five main disciplines that can prevent corruption. These components of integrity are Transparency, Accountability, Prevention, Enforcement and Education. These variables can be defined as follows.

T = Transparency: Refers to the ability of citizens, public officials and civil society organizations to detect whether public officials are in compliance with the rules and standards defined in Accountability. Transparency can be usefully decomposed into substantive transparency, i.e., supervisors knowing the behavior of their subordinates and procedural transparency, i.e., the involvement of stakeholders in the process of decision making. Reporting requirements can reasonably be thought of as either transparency or accountability.

A = Accountability: Refers to rules that set standards both on avoiding corruption and specify punishments, and rules that set standards for service delivery and performance and specify rewards or punishments for meeting or failing to meet standards. Accountability can be usefully decomposed into the ability of superiors to reward or punish their subordinates, and the ability of voters to punish and reward politicians.

P = Prevention: Refers to the systemic reform of institutions so as to decrease opportunities for corruption. This includes reducing monopoly and discretion, rightsizing the civil service, and reducing contact between private and public actors.

E = Enforcement: Refers to whether the rules defined in accountability are enforced once they are detected. This includes criminal sanctions for corruption, and administrative sanctions for negligence or poor performance. The presence and effectiveness of anti-corruption agencies, ombudsmen and auditors can be thought of as components of enforcement. There are obvious complementarities between enforcement, transparency and accountability.

E = Education/Values: Refers to the intrinsic motivations of public officials to avoid corruption even when a simple cost-benefit analysis would induce them to be corrupt.

In addition to “TAPE”, another factor can also be a determinant of the level of corruption. This is variously referred to as “**Education**”, “Awareness”, or “Values”. In many contexts people do undertake actions that are not in their interest if they serve some broader public good. Such behavior can lead to the control of corruption. Thus, even if changing human nature seems difficult, a focus of values might lead to policy advice like reducing the barriers to entry into public service of relatively virtuous sections of the

population. Because selection as much as education can affect the values of public officials it might be better to rename "Education" as "Values".

Finally, it might be possible to affect attitudes towards corruption by demonstrating just how harmful it is. For instance, results showing the effects of corruption on health and education outcomes (Azfar 2002), crime (Azfar 2004), environmental quality, or human trafficking (Azfar and Lee 2003), may galvanize civil society to act against corruption.

Box 2. Controlling corruption

Theoretical analysis of gains and losses from corrupt behavior lead to both Klitgaard's formula C=M+D-A and USAID's TAPEE framework.		
Theoretical analysis	**Klitgaard**	**USAID**
Potential gains from Corruption	Monopoly	Prevention
	Discretion	
Expected costs of corruption	Accountability	Transparency
		Accountability
		Enforcement
Values		Education/Values

Integrating the TAPEE factors into Klitgaard's framework, we can restate the formula as

$$C = M + D - A * T * E – V$$

Where C, M, D and A stand for corruption, monopoly, discretion and accountability, as in Klitgaard's formula, and T, E, and V stand for transparency, enforcement and values. In this restatement, corruption is a function of monopoly and discretion, minus accountability, transparency and enforcement, and minus values. Accountability, transparency and enforcement are multiplied because none has meaning without the others.

C. THE RUSSIAN FIELD STUDY

In conjunction with USAID, four sectors and countries were identified opportunistically based on the interest of the local mission and government counterparts, and IRIS' experience and existing relationships. A methodology that combines qualitative assessments with survey instruments was developed and is being piloted to assess corruption and TAPEE factors in civil litigation in Georgia, business regulation in Russia, business licensing in Romania, and pharmaceutical procurement in Bulgaria. This report presents the findings from the study on business regulation in Russia.

Appendix A shows how Russia scores on a variety of corruption measures compared to other countries in the Former Soviet Union. Transparency International ranks the perception of corruption in Russia as 2.7 out of a possible 10 (high), a worse score than Slovakia, Hungary, Bulgaria, Croatia, Romania or the Former Soviet Union as a whole. Business Environment and Enterprise Performance Survey (BEEPS), developed jointly by the World Bank and the European Bank for Reconstruction and Development, is a survey of over 4000 firms in 22 transition countries conducted in 1999-2000 that

examines a wide range of interactions between firms and the state. The BEEPS survey reported that Russia was in the middle of the pack for comparator countries with respect to the frequency of bribe paying for licenses; better than most comparator countries with respect to bribes paid to gain government contracts; and towards the high end on estimates of the size of administrative corruption. See Appendix B. Nevertheless, Russians do not perceive corruption to be as pressing a problem as citizens of other countries perceive it to be, perhaps indicating that they take it for granted. In CEFIR's survey of businesses, businesses ranked corruption at 1.87 on a scale from 1 to 5, where 1 meant that it was not a problem, and 2 meant that it was a slight problem. [CEFIR 2003]

D. THE SURVEYS

One thousand and seven interviews were carried out with heads of businesses in twenty-five municipalities in five regions: Chelyabinsk Oblast, Krasnoyarsk Kray, Novgorod Oblast, Tomsk Oblast, and Primorskiy Kray. Two fire, sanitary and tax officials were also surveyed in each of the same municipalities. After reviewing the consistency of the observations, IRIS dropped 152 business observations and 12 agency observations as unreliable.[1] The data presented here do not include these observations.

II. SURVEYS OF AGENCIES

Two officials (typically the direct and the deputy director) of the municipal office of the tax authority and fire and sanitary inspections were interviewed in the same 25 municipalities. They were asked about both the working conditions and prevailing conditions with respect to transparency, accountability, prevention, enforcement and education/values (TAPEE). The survey firm reported difficulties in securing participation in the interviews. In some cases, superiors received copies of the questionnaire, which were distributed before interviews took place.[2]

We explored the relationships between the agency officials' reports of TAPEE variables in their agency and the business reports of levels of corruption. Appendix A shows the results of statistical analysis. We do not find a strong relationship between agency officials' reports of TAPEE factors and the reported levels of corruption even when aggregating all available data; the relationships are certainly not reliable detectable at the level of the individual agency. This means that agency officials' reports of institutional

[1] The survey instrument was long and the survey firm encountered difficulties in obtaining respondents. After we noted a suspicious similarity between some observations, it was revealed that certain interviewers filled out the questionnaires for their respondents based on a common "pattern".

[2] This is potentially of concern insofar as it may have permitted collusion in the responses. Six pairs of agency responses were dropped because their responses were more than 80% identical.

integrity are not reliable guides to levels of corruption. A deeper analysis may be needed to design reform measures that should be undertaken to prevent corruption or lower current corruption levels.

III. BIAS, CONSISTENCY AND TRUTH TELLING

One of the concerns in surveying about sensitive topics is the risk that respondents may not tell the truth. The business questionnaire experimented with several means to encourage respondents to tell the truth and identify respondents who were not.

Consistency. First, two types of consistency checks were run on the data. The first type of test looked at the consistency of a respondent's individual answers. The second compared the answers of different respondents to see whether businesses dealing with the same agency tended to make the same reports, and whether agency respondents in the same municipality tended to tell the same story. We regressed each respondents' answers on the average of the answers of other respondents, and we found a very high statistical significance (generally .000). We are satisfied both that the data is consistent and that there is strong municipal variation in the data.[3]

Critical questions. We asked a number of questions designed to assess the reliability of the respondent. One way to use these questions is to assume that a respondent who answers negatively to questions whose answers are likely to be positive is an unreliable respondent. We chose three critical questions for this test: "Have you ever been absent from work without proper justification?" "Have you ever made personal calls from your office phone?" and "Have you ever lied in your own self-interest?". We then assigned each respondent a score reflecting the number of critical questions that the respondent answered negatively.

Reported levels of corruption (Q24p3, Q34a3, Q34b3, Q34a4, Q34b4) were regressed on the number of critical questions answered in the negative (numcrit). The regression for Q24p3 (voluntarily paid informal payments in the registration process) showed a significance of .01, with a negative sign, indicating that the higher the number of critical questions answered negatively, the lower the reported bribe payment. This can be interpreted in one of two ways: i) honest people do not engage in the practices described in the critical questions and do not pay as much in bribe; or ii) all people engage in these practices and those who answered negatively are unreliable and misrepresent the amount of bribes paid. The first hypothesis seems more likely, given that there was no strong correlation between answering one of the critical questions negatively and answering the others negatively; the theoretical unreliable respondent who hesitates to disclose wrongdoing would be more likely to answer all critical questions negatively. However, the other regressions did not yield significant results.

[3] This remains true even after very similar observations within the same municipalities were eliminated.

Coin Toss. Sometimes respondents are reluctant to admit to illegal or unethical behavior. In an effort to identify "truth tellers", the questionnaire for businesses included a section in which respondents were asked to toss a coin and to answer a number of incriminating questions "yes" if they had done the action or if the coin toss was heads. This would allow respondents to answer affirmatively without necessarily incriminating themselves, while allowing researchers to identify questionnaires with a statistically unlikely number of negative responses. However, only 13.6% of respondents participated. It is possible to identify respondents who have an unlikely number of negative responses, but it is unclear where to place the cut-off for identifying respondents as unreliable.

Firms Like Yours. Another innovation in the questionnaire to identify truth tellers was the use of multiple versions of the questionnaire. One difference in versions was whether the respondent was asked about the amount of informal payments paid by his own firm, or by "firms similar to yours". Tests were run to determine whether this phrasing affected either the rate of missing responses or the reported levels of bribe payments.

Table 1. Difference by versions

Version	Your firm (rubles)	Firms similar to yours (rubles)
Official government-mandated fees	2423.21	2637.60
Formal, official payments for facilitating and expediting the process	326.58	312.83
Informal payments/gifts voluntarily offered by you	329.58	299.65
Informal payments/gifts demanded by officials for facilitating and expediting the process	292.35	221.49
Informal payments/gifts demanded by officials, without which the officials would not have registered your business	120.13	65.22
Payments paid to private businesses (intermediary firms or law firms) to help in the process	779.70	913.61
Expenses of your business not included above (e.g. labor time, travel, legal work, etc)	1370.67	886.23

These differences are not statistically significant. Rubles were approximately 30/$ during the relevant period.

The difference in the level of missing responses was significantly different at the .005 level for the question, "Officially mandated government fees." There were more missing responses when respondents were asked about "firms like yours". This may reflect an inability to answer due to a lack of knowledge of the experiences of other firms. There was no significant difference in the number of missing responses to any of the other questions, including those dealing with informal payments. The levels of reported payments were not significantly affected by the phrasing except for the question, "Expenses of your business not included above", where those who were asked about "firms like yours" reported lower costs than those asked about their own firms (significance .05), apparently reflecting a bias where respondents believe that they have higher costs than everyone else.

We would expect that when we asked respondents about their own firm, their report of the amount of informal payments paid would be more highly correlated with their report of the amount of informal payments paid to a variety of agencies (Q38). However, the correlation was lower. We would also expect that when we asked respondents about their own firm, their responses would be more highly correlated with Q33d, which asks about the firm's experience with the Tax Agency. This was indeed the case. We might also expect that when we ask respondents about "firms like yours", their answers would be more closely correlated with their response to Q33, which asks about their perceptions of the Tax Agency overall. The results were mixed. The correlation was in fact lower when asked about "firms like yours" except for the question dealing with officials' refusal to register unless paid an informal payment. We conclude that there is no evidence that asking about "a firm like yours" is more efficient at eliciting frank answers than asking about "your firm".

Definition of corruption. Respondents were asked whether they considered a number of different behaviors to be corrupt (Table 2). Some 19% of respondents did not believe that accepting a gift was a form of corruption, and more respondents thought that raising prices was a form of corruption than that shirking was a form of corruption.

Respondents' definitions of corruption were strongly related to how they estimated the percentage of corrupt officials at a variety of agencies. Table 3 shows how the estimated percentage of corrupt officials at different agencies changed if the respondent considered the listed behavior to be "corrupt." Changes are listed only if they are significant at the .01 level or better. For example, those who considered accepting an informal payment for service to be corrupt were likely to report higher levels of corruption in the tax, sanitary and fire agencies, but lower in the central government. Those who considered shirking to be corrupt were likely to report lower levels of corruption in agencies across the board. This exercise gives insight into which behaviors are occurring at which agencies, but also emphasizes the way in which respondents' personal definitions of corruption affect the way they answer questions about corruption.

Table 2. Definitions of corruption

Actions	Percentage who agreed that this action is corrupt	Percentage who did not agree that this action is corrupt
To take an informal payment or gift from a citizen for a service	78.6	18.83
To take an informal payment from a company in return for buying its products	81.64	15.91
Intimidation of a private citizen or business to obtain money	85.85	11.7
Stealing funds or equipment from the government	72.4	25.03
Favoritism, that is, showing preference to relatives and other close persons	54.62	41.05
Shirking, that is being systematically absent from work for no reason	26.67	70.99
Raising the prices of essential items like electricity when people can't pay for it	38.01	58.83
Buying goods from foreign firms when Russian firms are operating below capacity	31.93	65.15

Note: Totals do not sum to 100% because some respondents did not answer the question.

Table 3. Impact of corruption definitions on evaluations of percentage of corrupt officials

Corrupt Behaviors	Agencies						
	Tax	Sanitary	Fire	Trade	Local Govt	Regional Govt	Central Govt
To take an informal payment or gift from a citizen for a service	6.87	11.1	6.97				-8.51
To take an informal payment from a company in return for buying its products	7.83	9.83	8.14	9.31			
Intimidation of a private citizen or business to obtain money		8.29		8.92	-7.76	-9.13	
Stealing funds or equipment from the government					-9.26	-6.69	-7.31
Favoritism, that is, showing preference to relatives and other close persons		6.36	6.06	5.48	6.43		
Shirking, that is being systematically absent from work for no reason	-4.59	-4.66	-6.95		-8.77	-7.13	-8.83
Raising the prices of essential items like electricity when people can't pay for it	5.32	9.66	8.25	8.5	6.28	8.29	
Buying goods from foreign firms when Russian firms are operating below capacity					7.2	8.13	10.98

Two different versions of the questionnaire were given. In the narrow version, respondents were told that items 1-4 were corruption. In the broad version, they were told that items 1-6 were corruption. We would expect that giving respondents a wider definition of corruption would result in reports of higher percentages of corrupt officials at the various institutions. (Interestingly, the respondents' original definitions continued to affect their estimates of the percentages of corrupt officials, demonstrating the persistence of these mental models.)

The type of definition did affect the answers for questions about the percentage of corrupt officials in the tax, sanitary and fire agencies, but did not affect the answers for questions about the percentage of corrupt officials in the trade inspection, local, regional or federal governments. Curiously, for those agencies where the definition made a difference, respondents reported a *higher* percentage of corrupt officials when given the narrow definition.

IV. WHAT HAVE WE LEARNED ABOUT METHODOLOGY?

- Users give robust answers when asked about corruption experiences and perceptions.

- There is no evidence that asking about "a firm like yours" is more efficient at eliciting frank answers than asking about "your firm".

- There is not a significant difference between user reports based on their own experiences and based on their perceptions, suggesting that users weight their own experiences strongly in forming their general opinions.

- Users carry a variety of mental models of corruption and these models affect how they answer questions, even when a definition of corruption is given to them.

- Longer survey instruments increase the number of implementation problems.

- Data from survey firms in systemically corrupt countries should be routinely checked for data fabrication.

- If the aim is to measure corruption, it is better to ask businesses about corruption than to try to infer it from answers about TAPEE given by public officials.

V. APPENDIX A. MEASURES OF RUSSIAN CORRUPTION

	Concept	Source	Definition	Russia "score"	Points of Comparison	Additional comments and notes
1	Governance ratings	Freedom House (2004)	An overall rating of governmental quality, capturing stability, legislative and executive transparency; the ability of legislative bodies to fulfill their responsibilities, decentralization of power, and the freedom of the civil service from excessive political interference and corruption.	5.25 on a 1-to-7 scale, with 1 being highest	Slovakia = 2.25 Hungary = 2.50 Bulgaria = 3.75 Croatia = 3.75 Romania=3.75 Eastern Europe = 3.29 FSU = 5.13	Russia has the lowest score of transition countries.
2	Constitutional, Legislative, and Judicial Framework ratings	Freedom House (2004)	Measures constitutional framework for protecting rights (including business and property rights), equality before the law, treatment of suspects and prisoners, judicial independence, and compliance with judicial decisions.	4.75 on a 1-to-7 scale, with 1 being highest	Slovakia = 2.00 Hungary = 1.75 Bulgaria = 3.25 Croatia = 4.50 Romania=4.25 Eastern Europe = 3.21 FSU = 4.82	Places Russia as the second lowest of transition countries; better than the FSU overall.
3	Index of Economic Freedom	Miles et al. (2004)	An aggregation of 50 variables capturing trade policy, fiscal burden of government, government intervention in the economy, monetary policy, capital flows and foreign investment, banking and finance, wages and prices, property rights, regulation, and informal market activity.	3.46 on a 1 to 5 scale, with 1 best	Slovakia = 2.44 Hungary = 2.6 Bulgaria = 3.08 Croatia = 3.11 Romania=3.66 Eastern Europe = 2.93 FSU = 3.30	Russia is second worst next to Romania. Economic freedom = "the absence of government coercion or constraint on the production, distribution, or consumption of goods and services beyond the extent necessary for citizens to protect and maintain liberty itself."

	Concept	Source	Definition	Russia "score"	Points of Comparison	Additional comments and notes
4	Degree of state intervention	Hellman et al (2000)	Percent of firms responding "frequently" or more to the question on how often the state directly intervenes in investment, employment, sales, prices, mergers, dividends and wages.	11.5% of firms	Slovakia = 30.4 Hungary = 27.3 Bulgaria = 10.2 Croatia = 7.1 Romania=13.2 Eastern Europe = 15.64 FSU = 14.56	Russian government appears less interventionist than Eastern Europe, Slovakia or Hungary. Based on the 1999 Business Environment and Enterprise Performance Survey (BEEPS). Averages taken across the seven dimensions of intervention.
5	Capture economy index	Hellman, Jones and Kaufman (2000)	The percentage of firms declaring a significant or very significant impact of corruption in influencing laws and policies (parliamentary legislation, presidential decrees, central bank, criminal courts, commercial courts, and party finance).	32% of firms	Slovakia = 24 Hungary = 7 Bulgaria = 28 Croatia = 27 Romania=21 Eastern Europe = 17 FSU = 21.46	Transition countries fall into two groups: low capture (most and least advanced reformers) and high capture (partial reformers). Russia is a high-capture country. Based on the 1999 Business Environment and Enterprise Performance Survey (BEEPS). Averages taken across firms, not weighted.
6	Accountability of state officials	World Bank (2002), own calculations	Percentage of "never" and "seldom" responses to the question: "If a government agent acts against the rules I can usually go to another official or to his superior and get the correct treatment without recourse to unofficial payments/gifts."	47.3% of firms	Slovakia = 49.1 Hungary = 45.2 Bulgaria = 45.7 Croatia = 42.2 Romania=45.5 Eastern Europe = 42.5 FSU = 44.5	Russia is a poor performer among transition countries. (Higher values indicate worse economic environments created by state officials.)
7	Regulatory quality	Kaufmann, Kraay, and Mastruzzi (2003)	Regulatory quality includes the incidence of market-unfriendly policies as well as perceptions of the burdens imposed by excessive regulation in business development. Higher scores indicate better quality.	-0.30 (on a 0 mean, 1 standard deviation scale)	Slovakia = 0.76 Hungary = 1.21 Bulgaria = 0.62 Croatia = 0.19 Romania=0.04 Eastern Europe = 0.29 FSU = -0.36	Russia fares badly compared to EE and only slightly better than the FSU overall. Constructed by aggregating ratings from various sources (polls of experts and surveys of businesspeople).

	Concept	Source	Definition	Russia "score"	Points of Comparison	Additional comments and notes
8	Burden of regulation	World Economic Forum (2002)	Position in ranking of 75 countries (1= lightest burden)	23rd of 75 countries	Slovakia = 45 Hungary = 20 Bulgaria = 37 Romania=73 Eastern Europe = 38 FSU = 37	Russia is one of the less regulated countries included in this data base. Based on opinions of business executives questioned directly about the burden of regulations
9	Burden of regulation	Johnson et al. (2000)	% of managers' time spent on governmental/regulatory matters	18% of managers' time	Slovakia = 12 Romania=8	The survey was on small businesses and conducted in 1997.
11	Control of corruption	Kaufmann, Kraay, and Mastruzzi (2003)	Success in controlling corruption. Scores are estimated for 199 countries. The distribution of scores approximates a standard normal distribution. Higher scores indicate less corruption.	-0.9 (on a 0 mean, 1 standard deviation scale)	Slovakia = 0.28 Hungary = 0.60 Bulgaria = -0.17 Croatia = 0.23 Romania=-0.34 Eastern Europe = -0.06 FSU = -0.67	Russia scores worse than the comparators. Constructed by aggregating ratings from various sources (polls of experts and surveys of businesspeople).
12	Corruption perceptions index	Transparency International (2003a)	The level of corruption in the public sector as perceived by business people, academics and risk analysts (poll of polls). Higher scores indicate less corruption.	2.7 out of 10	Slovakia = 3.7 Hungary = 4.8 Bulgaria = 3.9 Croatia = 3.7 Romania=2.8 Eastern Europe = 3.6 FSU = 2.9	Russia scores worse than the comparators.
13	Burden of corruption	World Bank (2002), own calculations	Percentage of firms stating that corruption is a moderate or major obstacle to operation and growth.	29.1 of firms	Slovakia = 50.0 Hungary = 23.5 Bulgaria = 53.7 Croatia = 44.5 Romania=56.1 Eastern Europe = 44.53 FSU = 38.26	A comparatively low percentage for Russia compared to most other transition countries. (Higher values indicate worse economic environments.)

	Concept	Source	Definition	Russia "score"	Points of Comparison	Additional comments and notes
14	Business costs of corruption	World Economic Forum (2002)	Position in ranking of 75 countries (1= country with smallest costs of corruption)	63rd of 75 countries	Slovakia = 29 Hungary = 23 Bulgaria = 46 Romania=62 Eastern Europe = 36 FSU = 48	Costs of corruption are worse in Russia than in the other comparator countries. Based on opinions of business executives questioned directly about the burden of regulations
15	Place of corruption in relative ranking of problems facing businesses	Gray et al (2004)	Average over firms of their ranking of corruption among 22 obstacles of conducting business	11th of 22	Slovakia = 6 Hungary = 11 Bulgaria = 7 Croatia = 6 Romania=5 Eastern Europe = 7 FSU = 8	Corruption appears to be a significant problem in Russia. (Lower values denote a higher importance of corruption.) From the BEEPS2 sample data (2002)
16	Size of shadow economy	Schneider and Klinglmair (2004)	The ratio of informal economy to total GDP, in percentage points.	46.1%	Slovakia = 18.9 Hungary = 25.1 Bulgaria = 36.9 Croatia = 33.4 Romania=34.4 Eastern Europe = 29.0 FSU = 46.1	Estimates of the size of the shadow economy are produced using indirect econometric methods. The estimates are for 1999/2000.
17	Proportion of businesses in the informal sector	World Economic Forum (2002)	Position in ranking of 75 countries (1= country with smallest informal sector)	53rd of 75 countries	Slovakia = 37 Hungary = 38 Bulgaria = 56 Croatia = Romania=71 Eastern Europe = 42 FSU = 37	Informal sector ranked very large, according to this criterion, the proportion of businesses that are not registered. Based on opinions of business executives questioned directly about the burden of regulations
18	Cost of starting a business	World Bank (2004b)	Percentage of per capita national income needed to start a new business (excluding bribes).	6.7% of per capita income	Slovakia = 5.6 Hungary = 22.9 Bulgaria = 9.3 Croatia = 14.4 Romania=7.7 Eastern Europe = 16.88 FSU = 13.59	This is a measure of formal costs, which appear less burdensome in Russia than in other transition countries. (Higher values indicate worse economic environments.)

	Concept	Source	Definition	Russia "score"	Points of Comparison	Additional comments and notes
19	Number of procedures for starting a business	World Bank (2004b)	The total number of procedures that need to be taken to obtain the necessary permits and licenses a company to start operation.	9 procedures	Slovakia = 9 Hungary = 6 Bulgaria = 10 Croatia = 12 Romania=5 Eastern Europe = 9.9 FSU = 10.3	This is a measure of the complexity of formal requirements. Russia is in the middle of the pack. (Higher values indicate worse economic environments.)
20	Minimum capital for starting a business	World Bank (2004b)	Minimum capital needed to start a business as a percentage of per income capita	6.8% of per capita income	Slovakia = 50.3 Hungary = 96.4 Bulgaria = 123.8 Croatia = 25.5 Romania=0 Eastern Europe = 101.9 FSU = 38.6	This is a measure of a barrier to entry, which appears less burdensome in Russia than in most other transition countries. (Higher values indicate worse economic environments.)
21	Permits to start a firm	World Economic Forum (2002)	Median of the survey responses on number of permits to start a business	6 permits	Slovakia = 5 Hungary = 5 Bulgaria = 7 Romania=5 Russia = 6 Eastern Europe = 4.9 FSU = 5.5	Russia scores worse than most of the comparators. Based on opinions of business executives questioned directly about the burden of regulations
22	Days to start a firm	World Economic Forum (2002)	Median of the survey responses on number of days needed to start a business	26 days	Slovakia = 30 Hungary = 45 Bulgaria = 30 Romania=15 Eastern Europe = 38.6 FSU = 25.2	By this criterion, Russia is in the middle of the pack. Based on opinions of business executives questioned directly about the burden of regulations
23	Administrative burden for start up business	World Economic Forum (2002)	Position in ranking of 75 countries (1= country with lightest burden)	64^{th} of 75 countries	Slovakia = 72 Hungary = 16 Bulgaria = 75 Croatia = Romania=70 Eastern Europe = 47 FSU = 52	Russia scores poorly compared to most countries included in this data base. Based on opinions of business executives questioned directly about the burden of regulations

	Concept	Source	Definition	Russia "score"	Points of Comparison	Additional comments and notes
24	Importance of problems in the licensing and permitting process	World Bank (2002), own calculations	Percentage of firms stating that business licensing and permitting is a moderate or major obstacle to operation and growth	31.8% of firms	Slovakia = 39.1 Hungary = 19.9 Bulgaria = 35.5 Croatia = 33.1 Romania=43.9 Eastern Europe = 33.7 FSU = 30.6	Russia is in the middle of the pack. (Higher values indicate worse economic environments.)
25	Size of administrative corruption	Hellman, Jones and Kaufman (2000)	Average estimated proportion of revenues typically paid by firms to state officials in order to "get things done" (e.g., licenses, tax collection, connection to public services)	2.8% of revenues	Slovakia = 2.5 Hungary = 1.7 Bulgaria = 2.1 Croatia = 1.1 Romania=3.2 Eastern Europe = 2.2 FSU = 3.7	Russia scores poorly. Administrative corruption is "the extent to which firms make illicit and non-transparent private payments to public officials in order to alter the prescribed implementation of administrative regulations placed by the state on the firm's activities."
26	Frequency of bribes in the licensing and permitting process	World Bank (2002), own calculations	Percentage of firms responding "usually" or "always" to how frequently they would make unofficial payments/gifts to obtain business licenses and permits.	9.4 % of firms	Slovakia = 10.1 Hungary = 1.3 Bulgaria = 9.2 Croatia = 2.6 Romania=9.4 Eastern Europe = 6.3 FSU = 8.0	Russia's percentage is high compared to those in most transition countries. (Higher values indicate worse economic environments.)
27	Importance of bribes in the awarding of government contracts	World Bank (2002), own calculations	Average response to "When firms in your industry do business with the government, how much of the contract value would be typically paid in additional or unofficial payments/gifts to secure the contract?"	3.2% of a contract value	Slovakia = 3.75 Hungary = 3.56 Bulgaria = 3.72 Croatia = 2.92 Romania=3.63 Eastern Europe = 3.60 FSU = 3.34	Russia scores better than most of the comparator countries. (Higher values indicate worse economic environments.) .
28	Relative importance of bribes for licenses	Hellman et al (2000)	Bribes paid to get licenses and permits as a percent of total bribes paid by a firm.	20.4% of bribes	Slovakia = 33.2 Hungary = 43.6 Bulgaria = 22.6 Croatia = 6.7 Romania=39.8 Eastern Europe = 26.65 FSU = 20.13	Russia scores in the middle of the pack. Based on the 1999 Business Environment and Enterprise Performance Survey (BEEPS). Averages taken across firms, not weighted.

	Concept	Source	Definition	Russia "score"	Points of Comparison	Additional comments and notes
29	Relative importance of bribes for government contracts	Hellman et al (2000)	Bribes paid to gain government contracts as a percent of total bribes paid by a firm.	11.3% of bribes	Slovakia = 18.3 Hungary = 11.1 Bulgaria = 6.6 Croatia = 44.7 Romania = 7.8 Eastern Europe = 23.19 FSU = 10.53	Contrast to previous line of table for interpretation. Based on the 1999 Business Environment and Enterprise Performance Survey (BEEPS). Averages taken across firms, not weighted.
30	Importance of corruption in business licensing, relative to other forms of corruption	Transparency International (2003b)	Percent of individuals who would rank business licensing as the type of corruption (of 12 types) that they would most like eradicated.	5.3%	Slovakia = Hungary = Bulgaria = 9.9 Croatia = 12.9 Romania=15.1 Eastern Europe = 11.1 FSU =	Russia scores better than the comparators. Individuals were asked "If you had a magic wand and you could eliminate corruption from one of the following institutions, what would your first choice be?"
31	Prevalence of payments for licenses	Johnson et al. (2000)	Percent of firms making unofficial payments for licenses	92% of firms	Slovakia = 42 Hungary = Bulgaria = Croatia = Romania=17 Eastern Europe = FSU =	Nearly all Russian firms make unofficial payments for licenses. The survey was on small businesses and conducted in 1997.

Notes:

1. Eastern Europe = Average of all former communist (or socialist) countries in Central and Eastern Europe, for which data was available. If estimates are available for fewer than five countries, no Eastern European average is given.
2. FSU = Average of all the countries that were formerly part of the Soviet Union. If estimates are available for fewer than five countries, no FSU average is given.

VI. APPENDIX B. THE RELATIONSHIP BETWEEN TAPEE AND CORRUPTION

Stacking. Table 4 and Table 5 show the results of random effects regression of TAPEE variables at the regional level on an average of the corruption levels, stacking the observations and using dummies for type of corruption and region. The regressions for the Fire and Sanitary inspections have been placed side-by-side for ease of comparison. The regression for the Tax Agency follows, as Tax has different listed types of corruption.

Table 4. Stacked regressions for fire and sanitary

Dependent variable	**Corruption (Fire)**	**Corruption (Sanitary)**	**Expected Sign**
Corruption Dummy 2 (speed payment)	-0.72	-1.82	
	(2.23)*	(6.28)#	
Corruption Dummy 3 (concealment of violations)	-0.27118	-1.74982	
	(0.80)	(5.89)#	
Corruption Dummy 4 (simplifying for friends)	-0.00	-0.26	
	(0.01)	(0.91)	
Corruption Dummy 5 (imposing third party)	-1.58	-2.33	
	(5.13)#	(7.94)#	
Corruption Dummy 6 (repeated inspections)	-0.97	-1.95	
	(2.96)#	(6.45)#	
Corruption Dummy 7 (delay competitor)	-1.57	-2.73	
	(4.73)#	(9.24)#	
Region Dummy 2	-0.63	-0.96	
	(2.03)*	(2.65)#	
Region Dummy 3	3.71	4.20	
	(9.88)#	(15.71)#	
Region Dummy 4	1.54	1.89	
	(5.58)#	(6.61)#	
Region Dummy 5	1.58	2.81	
	(5.02)#	(10.96)#	
Prevention (How easily could this be done regularly?)	-0.01	0.02	+
	(0.18)	(0.49)	
Education (Proportion of honest officials)	0.01	0.07	-
	(0.38)	(2.44)*	
Education (How uncomfortable would you feel if you knew?)	-0.10	-0.04	-

Dependent variable	Corruption (Fire)	Corruption (Sanitary)	Expected Sign
	(1.95)+	(0.89)	
Transparency and Enforcement (Probability of being observed, reported and punished)	-0.25	-1.10	-
	(0.46)	(1.83)+	
Accountability (How easily could person be fired?)	-0.16	0.23	-
	(3.51)#	(6.60)#	
Log of population	0.24	0.24	
	(2.52)*	(2.74)#	
Constant	2.23	-0.69	
	(2.04)*	(0.61)	

Number of regions=5. Absolute value of z statistics in parentheses * significant at 5%; # significant at 1%

Table 5. Stacked regression for tax

Dependent variable	Corruption (Tax)	Expected Sign
Corruption Dummy 2 (speed payment)	-2.36	
	(7.01)#	
Corruption Dummy 3 (demanding informal payment to register)	-3.33475	
	(9.81)#	
Corruption Dummy 4 (simplifying for friends)	-0.49	
	(1.55)	
Corruption Dummy 5 (imposing third party)	-3.30	
	(10.24)#	
Corruption Dummy 6 (delaying competitor)	-3.38	
	(10.21)#	
Region Dummy 2	-1.78	
	(4.90)#	
Region Dummy 3	3.18	
	(9.55)#	
Region Dummy 4	0.48	
	(1.40)	
Region Dummy 5	2.49	
	(8.36)#	
Prevention (How easily could this be done regularly?)	0.02	+
	(0.22)	
Education (Proportion of honest officials)	0.08	-
	(2.56)*	

Dependent variable	Corruption (Tax)	Expected Sign
Education (How uncomfortable would you feel if you knew?)	0.26	-
	(3.80)#	
Transparency and Enforcement (Probability of being observed, reported and punished)	0.36	-
	(0.88)	
Accountability (How easily could person be fired?)	-0.03	-
	(0.56)	
Log of population	0.16	
	(1.26)	
Constant	-0.06	
	(0.03)	

Number of regions=5. Absolute value of z statistics in parentheses * significant at 5%; # significant at 1%

We examined the relationship between the TAPEE variables and average corruption scores reported by the business community, controlling for regional differences, differences due to the type of corruption (for example, some types of corruption may be more readily observable), and the population density (as corruption levels tend to go up when there is a larger population). Indeed, the regressions show that there are differences due to the type of corruption, the region, and in the case of the fire and sanitary regressions, due to population density.

However, the relationship between the TAPEE variables and the average corruption levels is tenuous. The Education variable "What proportion of your colleagues are so honest that they would not . . ." is significant for the Sanitary and Tax agencies, but has the wrong sign. The Education variable "How uncomfortable would you feel . . ." is significant for the Fire and Tax agencies; however, only the regression for the Fire agency has the right sign. The variable Transparency and Enforcement, which captures the likelihood of being observed, reported and punished, is significant only for the Sanitary agency. The Accountability variable, "How easily could this person be fired?" is significant for both the Fire and Sanitary agency, but only has the right sign in the regression for the Fire agency. Overall, these regressions do not show a strong relationship between TAPEE variables and corruption levels.

There are two possible categories of explanations for these weak results. Either they have to do with the nature of the underlying relationships, or they have to do with problems in measurement. The relationship itself may be non-existent or weak at the municipal level. We checked for correlation of the variables and found some to be highly correlated. The data from public officials may not be sufficiently reliable to show the relationships that exist.

We supposed that the differences between agency offices were slight compared to the amount of data that we had, and so relationships were masked by noise. Accordingly, we

generated average TAPEE variables that drew on a broader number of questions in the questionnaire.

Averaging TAPEE variables. We created TAPEE variables by normalizing and averaging the different results of a number of questions related to the TAPEE theme and regressed these averages on the different reported types of corruption for each agency. Combining the available data in these regressions, only Prevention in the fire inspection and Transparency, Prevention and Enforcement in the sanitary inspection are significant. All but Transparency have the wrong signs.

In similar regressions for the Tax Inspection, only Education/Values is significant; it has the correct sign, indicating that the stronger values against corruption are held, the less corruption is reported.

Table 6. Regression of average TAPEE in fire inspection

Fire	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	
Dependent variable	**Accepts voluntary payments**	**Demand speed/facilitation payments**	**Payment for concealment of violations**	**Use personal relations to facilitate**	**Imposes third parties**	**Repeated inspections**	**Delay competitor**	**Expected Sign**
Transparency	-0.43	-0.45	-0.26	-0.52	-0.45	-0.18	-0.27	-
	(0.67)	(0.71)	(0.45)	(0.76)	(0.79)	(0.28)	(0.47)	
Accountability	-0.52370	-0.32743	0.07418	-0.55227	-0.08366	-0.32708	-0.08688	-
	(0.46)	(0.30)	(0.07)	(0.46)	(0.08)	(0.29)	(0.09)	
Prevention	3.59	3.25	2.91	3.07	3.08	3.72	2.94	-
	(3.10)#	(2.87)#	(2.77)*	(2.49)*	(3.00)#	(3.23)#	(2.86)#	
Enforcement	-0.99	-0.24	-0.14	0.26	0.12	-0.02	-0.05	-
	(0.72)	(0.18)	(0.11)	(0.18)	(0.10)	(0.01)	(0.04)	
Education/Values	-0.51	-1.30	-1.78	-1.44	-1.70	-2.10	-1.83	-
	(0.59)	(1.52)	(2.25)*	(1.55)	(2.20)*	(2.42)*	(2.36)*	
Constant	5.85	5.17	5.44	6.86	4.62	5.32	4.55	
	(5.07)#	(4.58)#	(5.21)#	(5.60)#	(4.53)#	(4.65)#	(4.45)#	
Observations	25	25	25	25	25	25	25	
R-squared	0.40	0.45	0.49	0.43	0.52	0.54	0.52	

Table 7. Regression of average TAPEE in sanitary inspection

Sanitary	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	
Dependent variable	**Accepts voluntary payments**	**Demand speed/ facilitation payments**	**Payment for concealment of violations**	**Use personal relations to facilitate**	**Imposes third parties**	**Repeated inspections**	**Delay competitor**	**Expected Sign**
Transparency	-1.32	-1.73	-1.33	-1.11	-2.37	-2.21	-1.86	-
	(1.65)	(2.04)+	(1.69)	(1.11)	(2.64)*	(2.46)*	(2.50)*	
Accountability	-1.16556	-1.39442	-1.49371	0.17109	-1.08799	-0.69438	-0.87102	-
	(1.05)	(1.19)	(1.37)	(0.12)	(0.88)	(0.56)	(0.84)	
Prevention	3.49	3.34	3.14	3.33	2.48	3.16	2.50	-
	(3.60)#	(3.25)#	(3.29)#	(2.73)*	(2.28)*	(2.89)#	(2.78)*	
Enforcement	2.30	2.79	2.55	2.90	3.43	3.19	2.64	-
	(1.92)+	(2.20)*	(2.17)*	(1.93)+	(2.56)*	(2.37)*	(2.37)*	
Education/Values	-0.52	-0.32	-0.53	-2.19	0.19	-0.54	-0.10	-
	(0.54)	(0.32)	(0.56)	(1.83)+	(0.18)	(0.50)	(0.11)	
Constant	4.88	3.67	4.28	5.18	2.81	3.37	2.54	
	(4.68)#	(3.32)#	(4.18)#	(3.95)#	(2.40)*	(2.88)#	(2.62)*	
Observations	25	25	25	25	25	25	25	
R-squared	0.50	0.51	0.52	0.47	0.46	0.52	0.49	

Absolute value of t statistics in parentheses *** significant at 5%; # significant at 1%**

Table 8. Regression of average TAPEE in tax inspection

Tax	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	
Dependent variable	**Accepts voluntary payments**	**Demand speed/ Facilitation Payments**	**Demand payment to register**	**Uses personal relations to facilitate**	**Imposes third parties**	**Delay competitor**	**Expected Sign**
Transparency	0.34	0.16	-0.42	0.08	-0.26	-0.28	-
	(0.44)	(0.19)	(0.65)	(0.09)	(0.42)	(0.41)	
Accountability	1.03381	0.76385	0.50453	0.92616	-0.11920	0.70376	-
	(1.01)	(0.68)	(0.59)	(0.73)	(0.15)	(0.77)	
Prevention	0.19	0.10	0.53	0.35	0.15	-0.03	-
	(0.30)	(0.15)	(1.01)	(0.45)	(0.30)	(0.06)	
Enforcement	0.34	0.31	0.24	0.50	0.19	0.23	-
	(0.89)	(0.75)	(0.75)	(1.05)	(0.62)	(0.67)	
Education/Values	-4.63	-3.61	-2.28	-4.99	-1.68	-2.11	-
	(2.97)#	(2.11)*	(1.75)+	(2.59)*	(1.36)	(1.52)	
Constant	4.65	2.69	2.23	4.09	2.74	2.53	
	(5.17)#	(2.73)*	(2.97)#	(3.68)#	(3.83)#	(3.16)#	
Observations	25	25	25	25	25	25	
R-squared	0.42	0.26	0.32	0.38	0.22	0.17	

Absolute value of t statistics in parentheses *** significant at 5%; # significant at 1%**

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